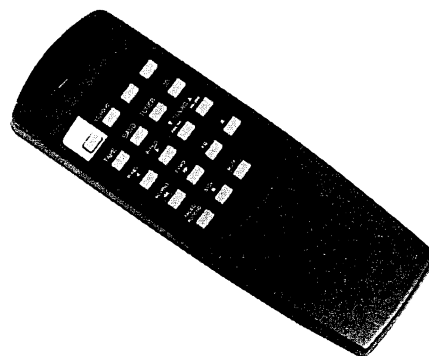
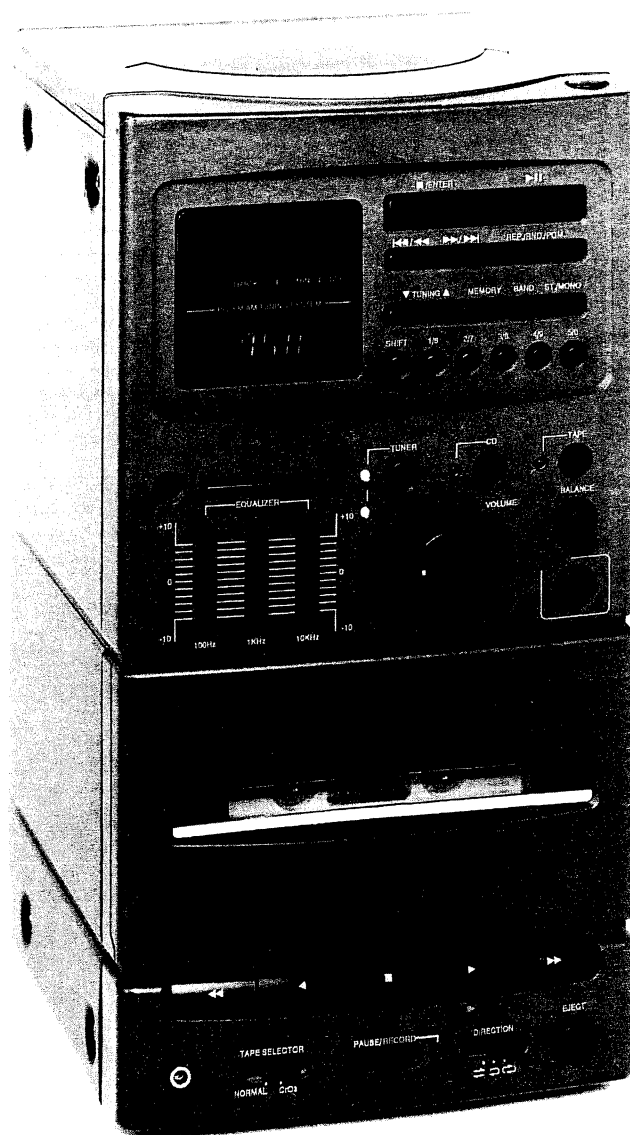


Serviceanweisung

Service manual

ML 30



Diese Service-Unterlage wurde ausschließlich für autorisiertes Fachpersonal erstellt. Für Eingriffe durch nicht autorisierte Personen übernimmt der Hersteller keine Haftung.

This service manual was only made for authorized specialists. For interventions by not authorized persons producer doesn't take possession of liability.

Abgleichanweisung Tuner/Cassette

Alignment procedure tuner/cassette

AM IF Alignment Procedure

Test Points:
(AM IF In)
(AM IF Out)

1. Connect 0.22u capacitor to IF sweep generator output to AM IF In.
2. Output the waveform from the oscilloscope.
3. Adjust T3 for maximum output.

AM Range & Sensitivity Adjustment

Range:

1. AM RF signal generator O/P from loop antenna, and received by AM antenna.
2. Tuning to 531KHz, adjust T5 let DC meter $V_t=1.0V\pm0.2V$.
3. Tuning to 1602KHz, check DC meter $V_t=8.4V\pm1.0V$.
4. Repeat adjustments as necessary to minimum tracking error.

Sensitivity:

1. Tuning to 603KHz, adjust T3 for maximum output.
2. Tuning to 1404KHz, adjust C18 for maximum output.
3. Repeat adjustments necessary to minimum tracking error.

FM IF Alignment Procedure

Test Points:
(FM IF In)
(FM IF Out)

1. Connect 0.022u capacitor to IF sweep generator output to FM IF In.
2. Output waveform from the oscilloscope FM IF Out.
3. Adjust T2 for maximum output.
4. Repeat adjustment as necessary for maximum sensitivity.

FM Range & Sensitivity Adjustment

Range:

1. FM RF signal generator input through ant, output from speaker.
2. Tuning to 87.5MHz, check DC meter $V_t=1.5V\pm0.5V$.
3. Tuning to 108MHz, align (L3) DC meter $V_t=9.0V\pm0.5V$.

Sensitivity:

1. Tuning to 90MHz, adjust L2 for maximum output.
2. Tuning to 106MHz, adjust C4 for maximum output.
3. Repeat adjustments necessary to minimum tracking error.

FM MPX Adjustment

1. FM RF signal generator input through antenna, frequency counter to Q111 pin 13.
2. Tuning to 98MHz, adjust R123, and frequency counter reading as 76KHz ± 200 Hz.

Cassette Deck Speed Adjustment

1. Counter connected to speaker output.
2. Insert MTT-111 (or equivalent) test tape and in play mode.
3. Adjust R 791, for 2940-3090 Hz. (Normal-speed) (R 791 is in the cassette motor)

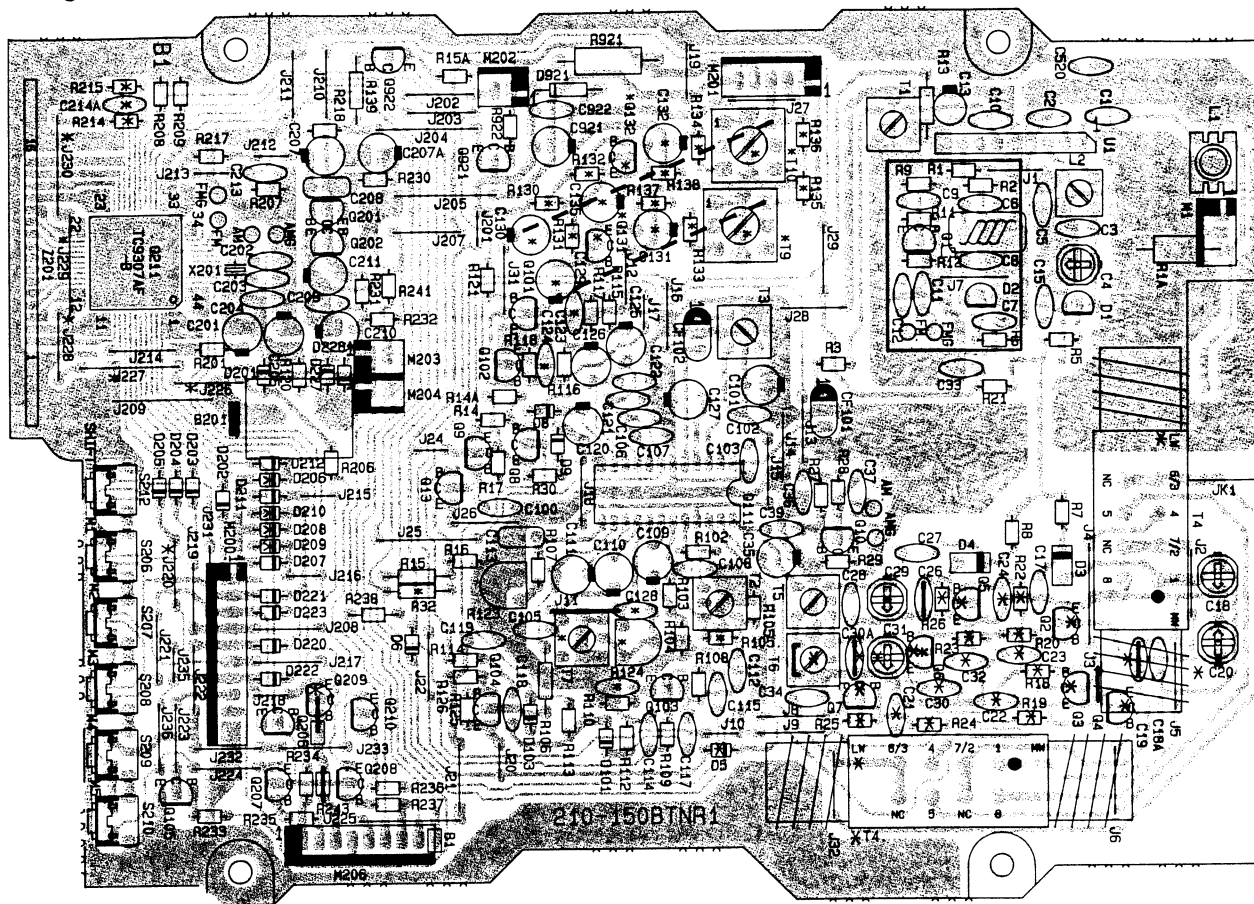
Cassette Deck Head Azimuth Adjustment

1. Insert MTT-114 (or equivalent) test tape and in play mode.
2. VTVM connected to output terminals.
3. Adjust screw, for Head Azimuth Adjustment. For maximum output. (10.0 kHz)

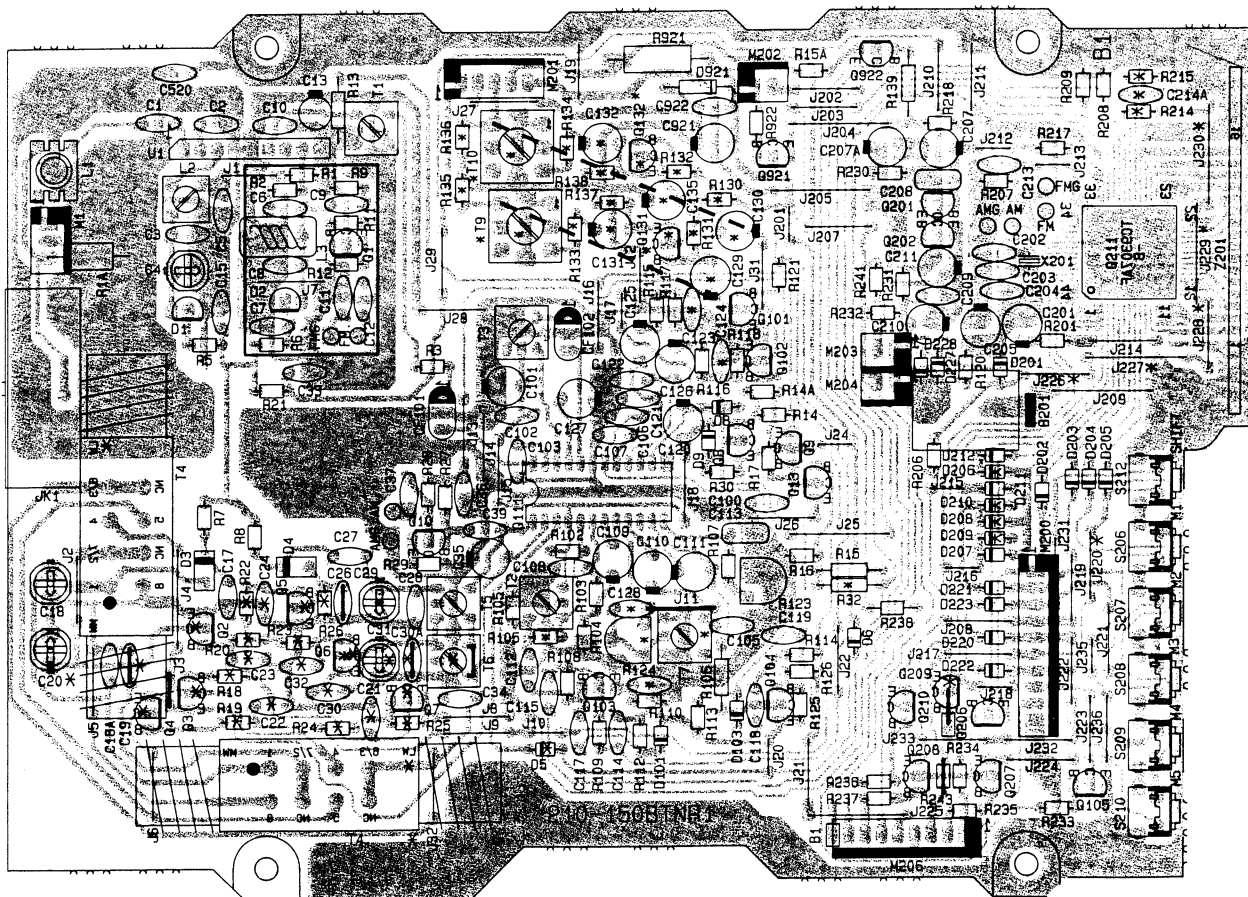
Platinendarstellung Tunerplatine

Tuner P. C. B. diagram

Bestückungsseite/Top view



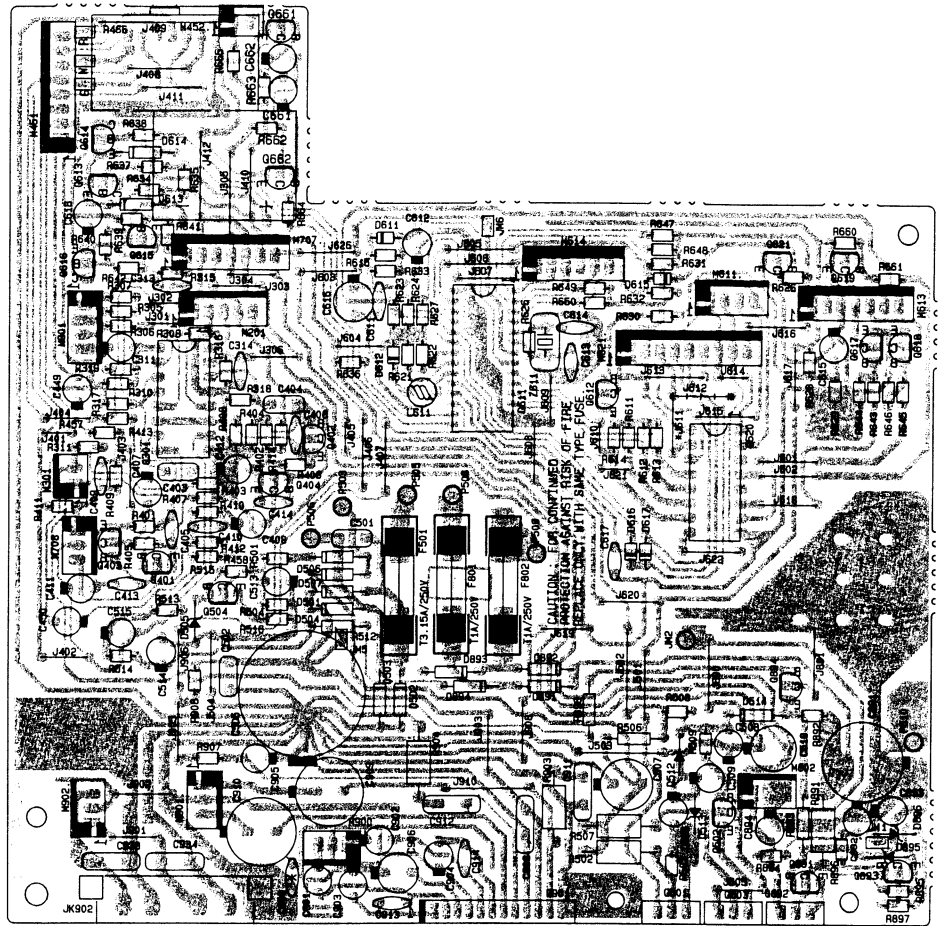
Leiterbahnseite/Bottom view



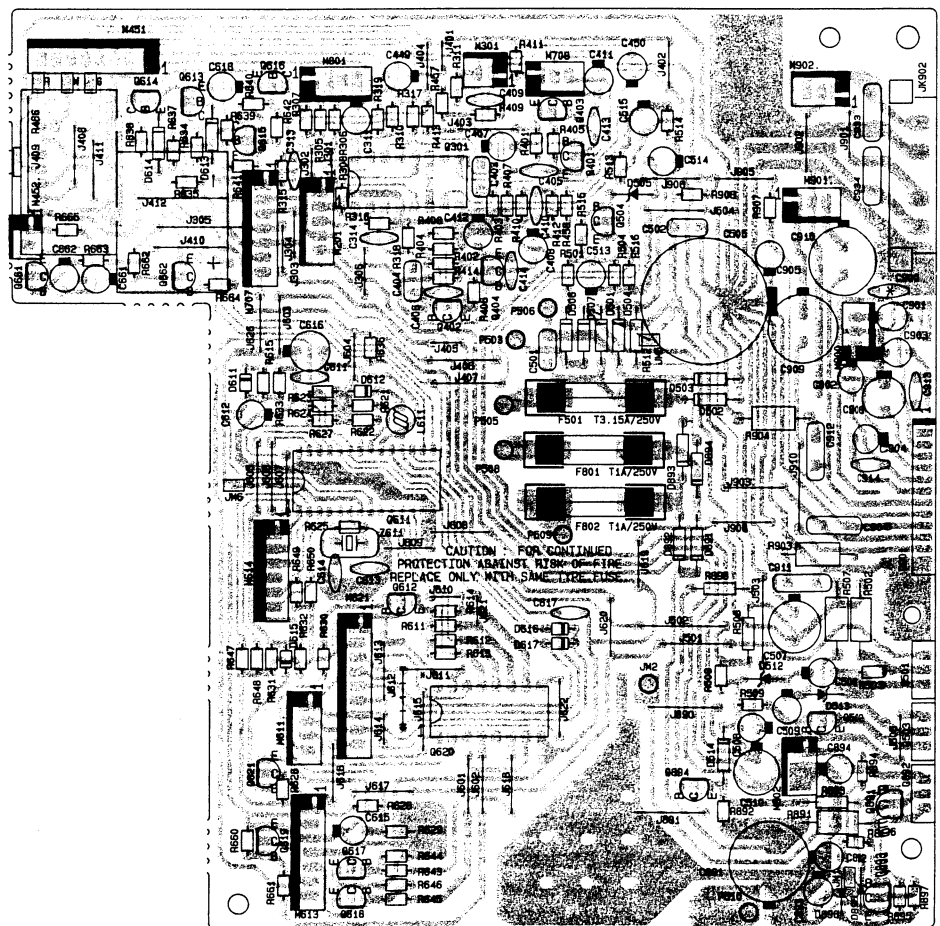
Platinendarstellung Endstufenplatine

Amplifier P. C. B. diagram

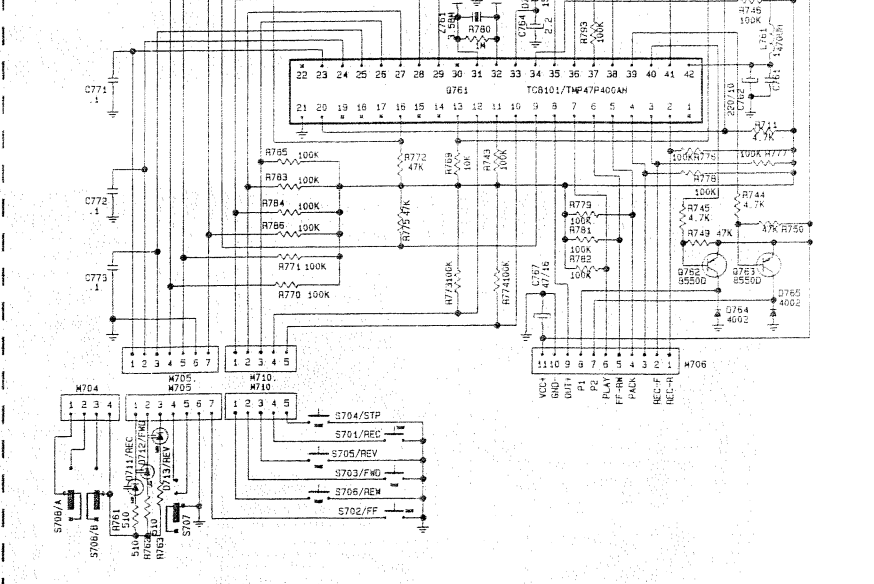
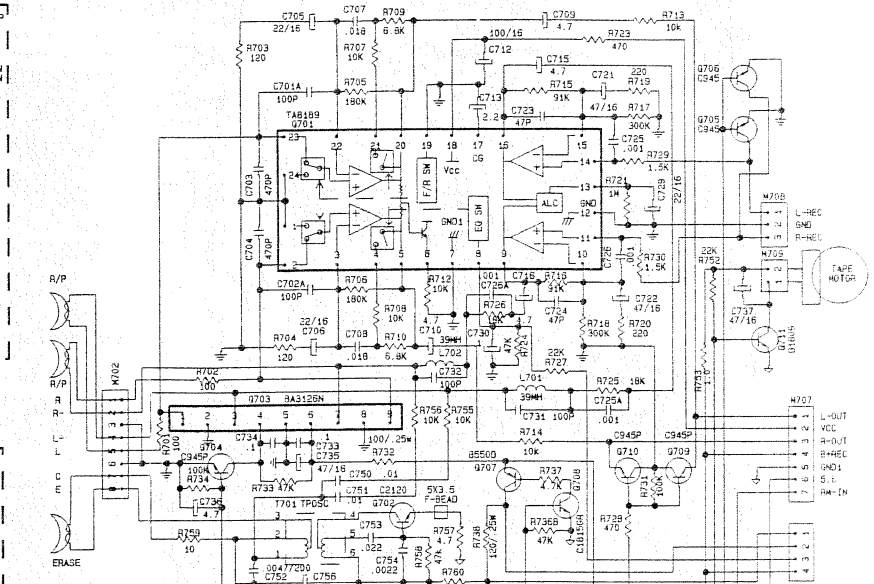
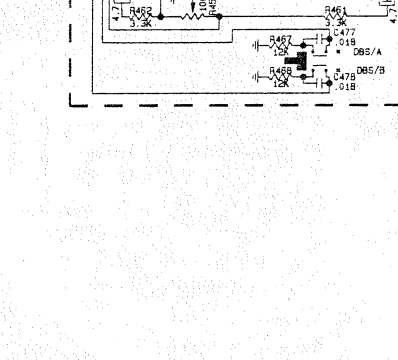
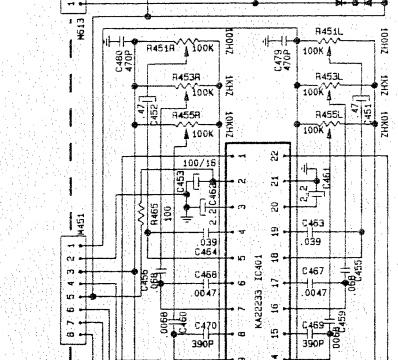
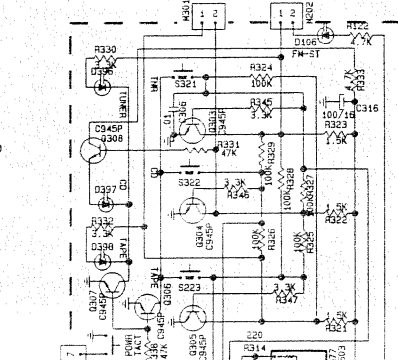
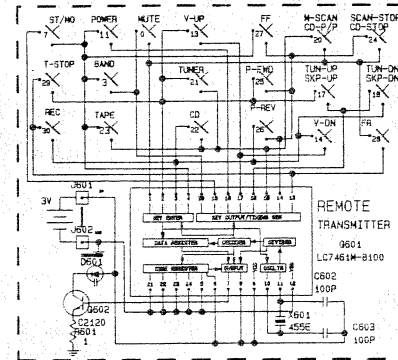
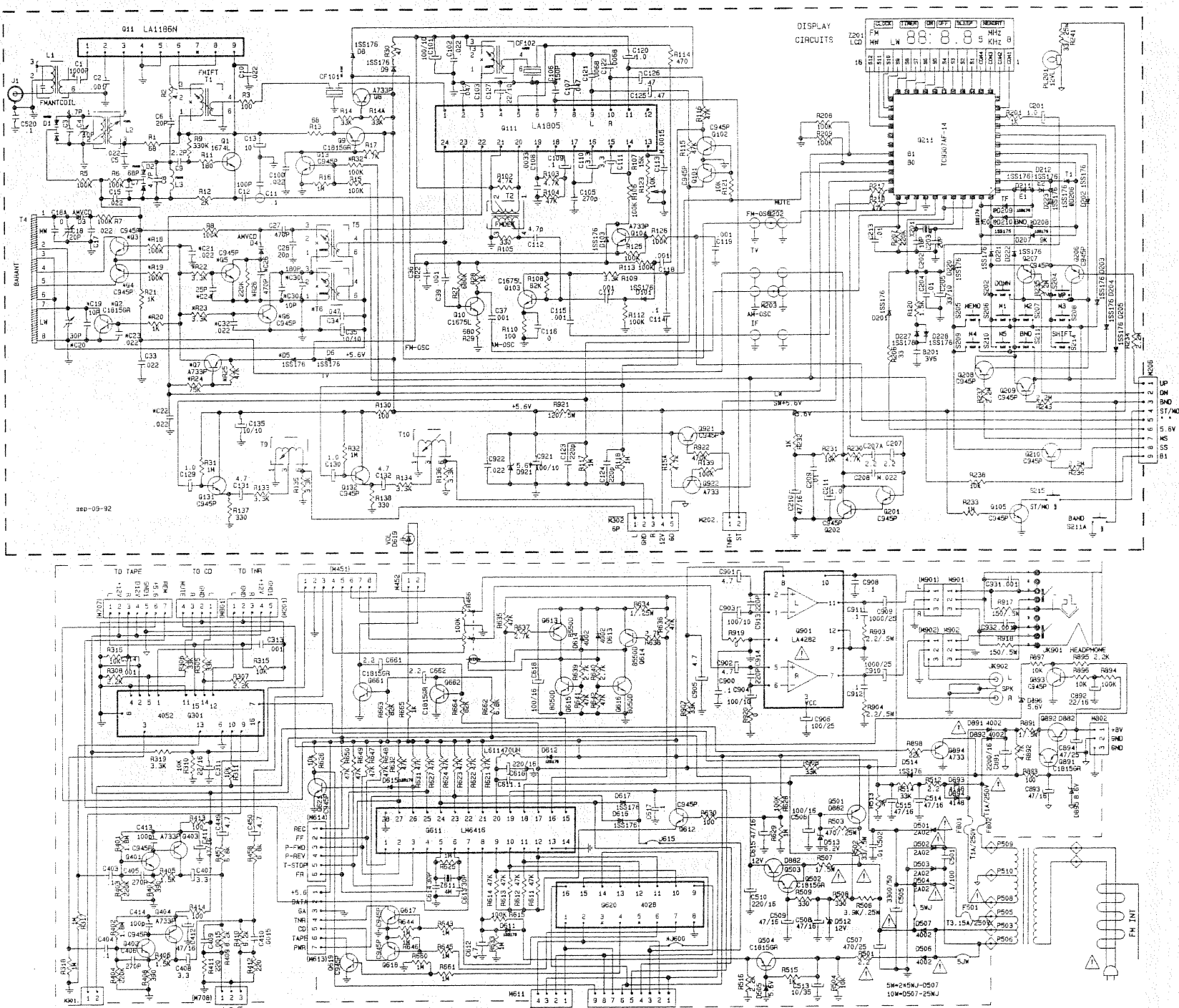
Bestückungsseite/Top view



Leiterbahnseite/Bottom view

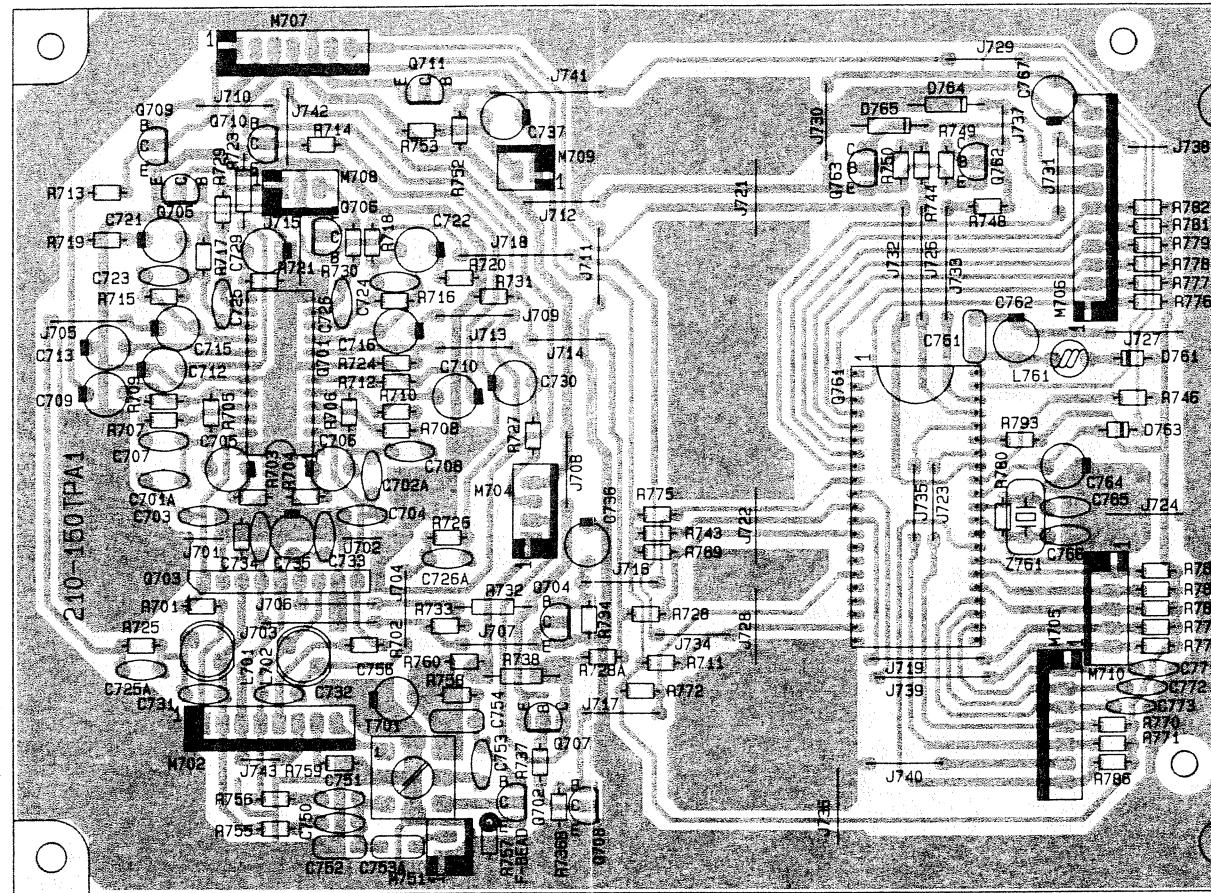


Schaltbild (ohne CD)
Schematic diagram (without CD)

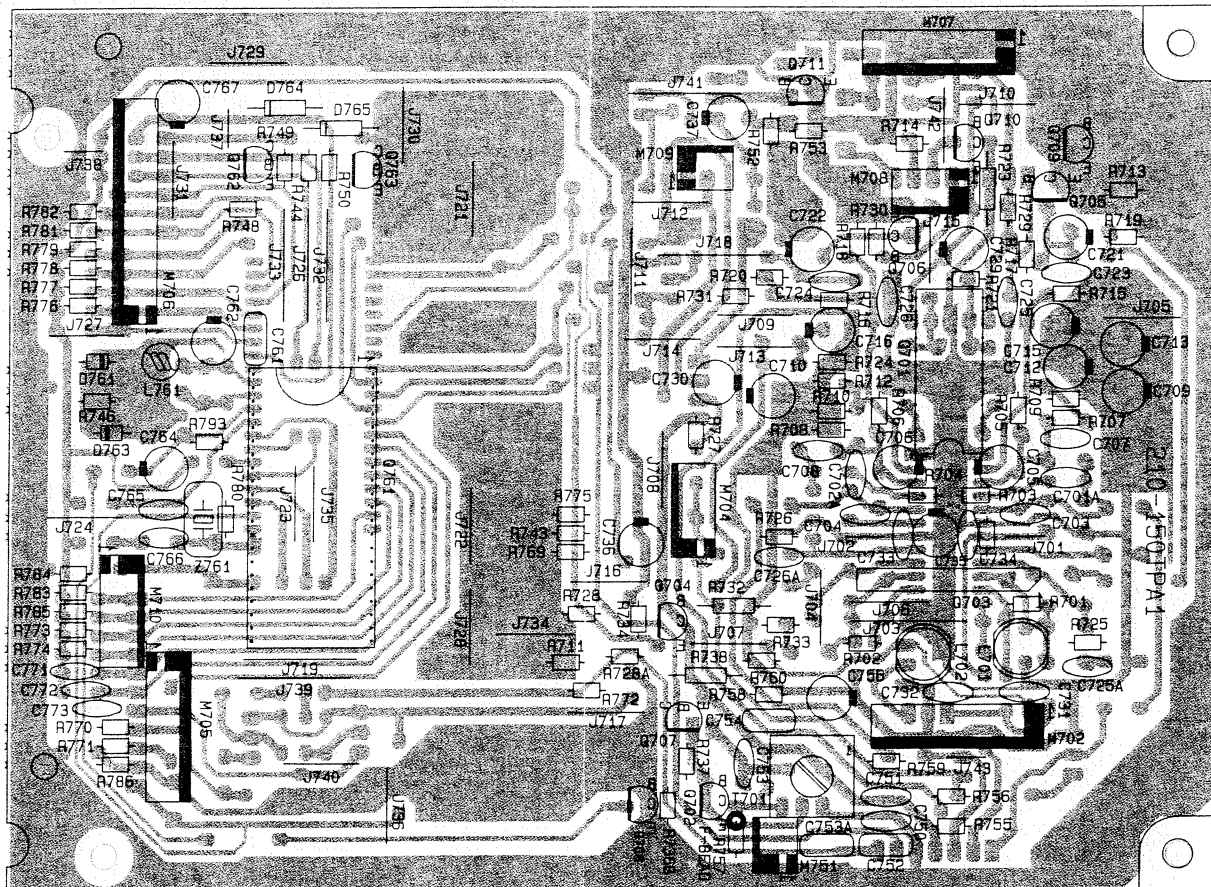


Tape preamp P. C. B. diagram

Bestückungsseite/Top view



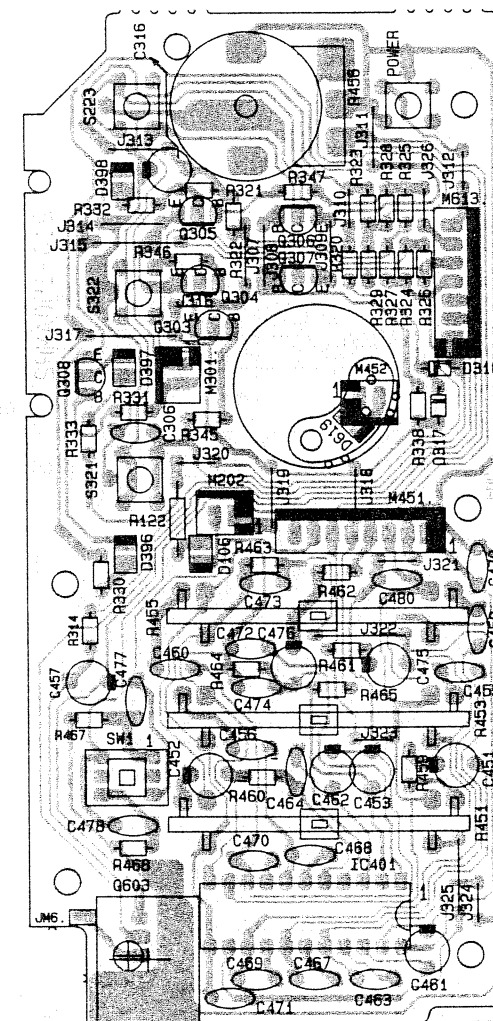
Leiterbahnseite/Bottom view



Platinendarstellungen/P. C. B. diagrams

Equalizerplatine/EQ P. C. B.

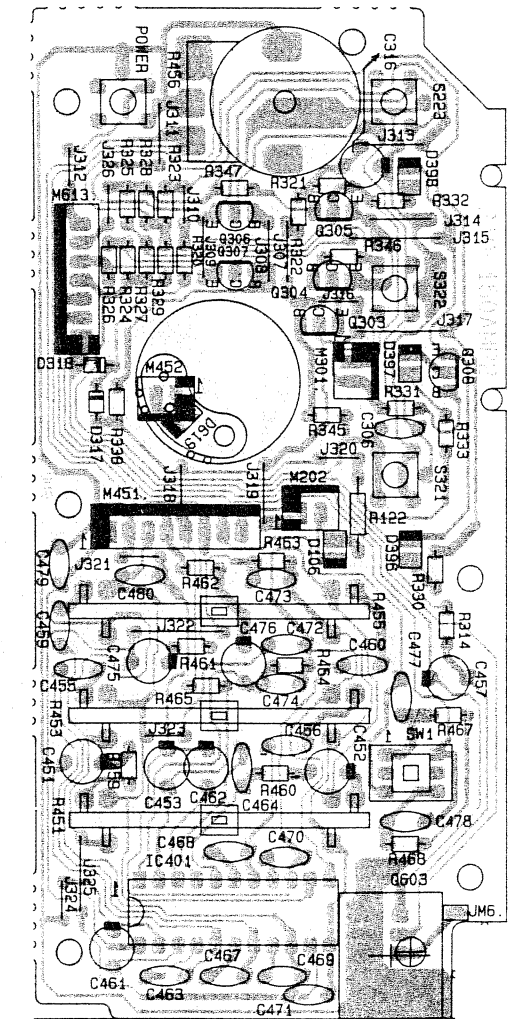
Bestückungsseite/Top view



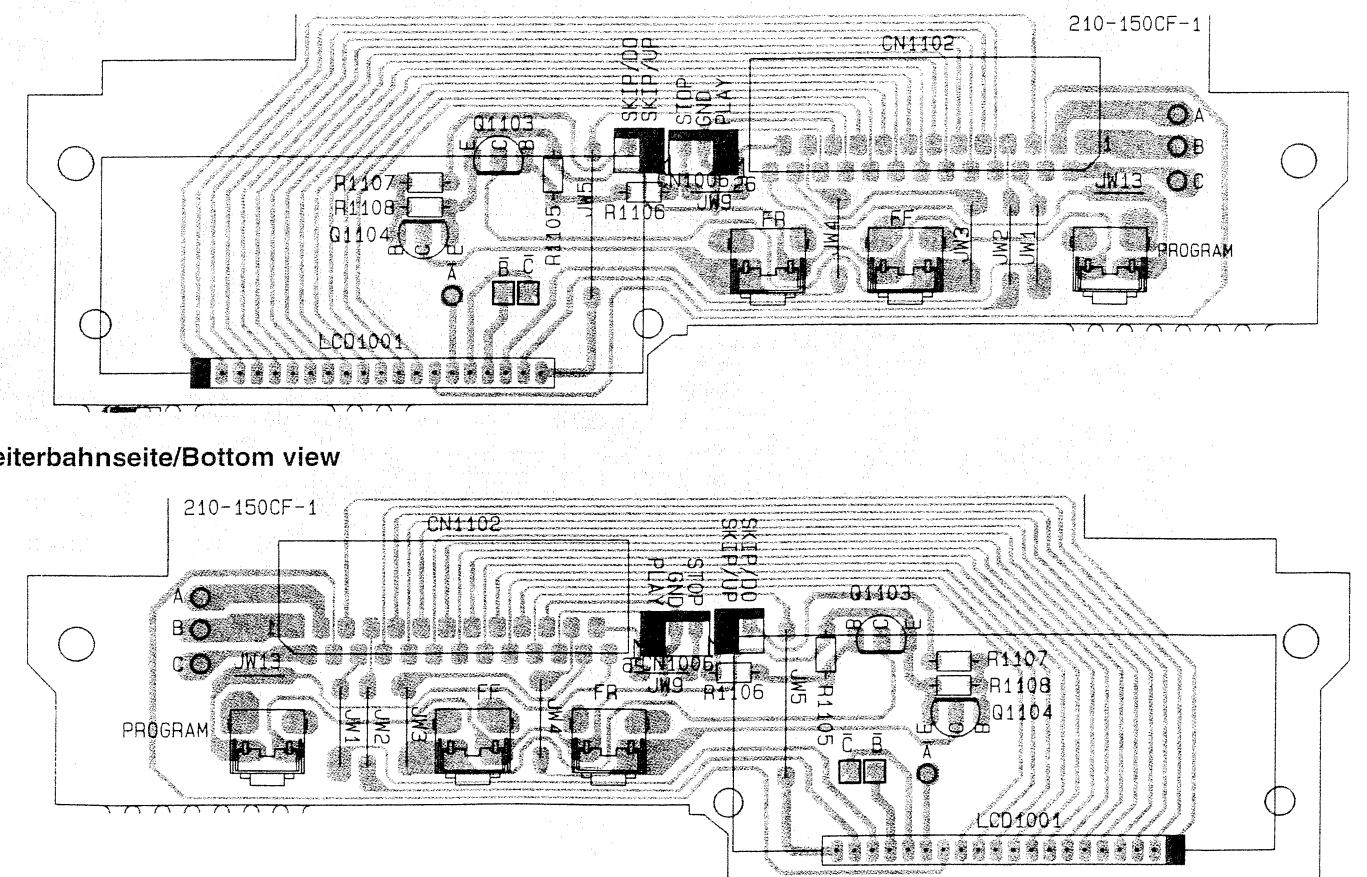
Displayplatine CD
CD display board

Bestückungsseite/Top view

Leiterbahnseite/Bottom view



Leiterbahnseite/Bottom view



IC/Transistor Spannungstabelle

IC and transistor voltage table

REF. NO.	B	C	E	REF. NO.	B	C	E	REF. NO.	B	C	E	REF. NO.	B	C	E
Q1	2.0V	4.6V	1.2V	Q208	0V	4.5V	0V	Q503	10.9V	18.6V	11.5V	Q707	10.3V	0.4V	10.9V
Q8	5.5	0.3	5.9	Q303	0.1	7.2	0	Q504	5.9	13.6	5.3	Q708	0.7	0	0
Q9	5.1	5.9	5.8	Q304	0.7	0.2	0	Q612	4.9	5.6	1.0	Q709	0	0	0
Q10	1.3	5.2	0.5	Q305	0.7	0.1	0	Q613	0	5.6	5.6	Q710	0	0	0
Q13	0	5.8	0	Q306	0.6	0	0	Q614	0	5.6	5.6	Q711	10.9	0	0
Q101	0	0	0	Q307	0.6	0	0	Q617	0	0.8	0	Q762	10.8	0	10.9
Q102	0	0	0	Q308	0.1	9.4	0	Q618	0	0	0	Q763	10.8	0	10.9
Q103	0	0	0	Q401	1.2	10.1	0.7	Q619	0	0.1	0	Q891	0.7	0	0.6
Q104	5.6	1.9	5.7	Q402	1.2	10.1	0.7	Q621	0.6	0	0	Q892	0.4	11.8	0.6
Q201	0.1	7.0	0	Q403	10.1	3.4	10.7	Q702	0.6	6.3	0.15	Q893	0.4	2.3	0
Q202	0.5	7.1	0	Q404	10.1	3.4	10.7	Q704	0.6	0	0	Q921	6.4	5.9	5.9
Q206	0	4.5	0	Q501	5.6	17.4	6.2	Q705	0.6	0	0	Q922	5.8	0	5.9
Q207	0	4.5	0	Q502	12.1	18.6	11.5	Q706	0.6	0	0				

REF. NO.	DESCRIPTION	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Q11	LA1186N	0.8V	1.5	4.2	0.015	0.015	4.3	0	3.4	4.3					
Q111	LA1805	1.5	1.5	4.0	0.6	1.5	6.0	8.6	0	1.9	2.0	3.2	0.8	1.0	1.6
		15	16	17	18	19	20	21	22	23	24				
		0.9	1.5	1.4	0.7	0.1	4.0	4.0	1.6	1.6	1.6				
Q211	TC9307AF	0V	0	0	0	5.0	5.0	5.0	5.0	2.2	3.5	3.5	3.5	3.5	3.5
		15	16	17	18	19	20	21	22	23	24	25	26	27	28
		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.9	0	5.0
Q301	BU4052B	0V	0	0	0	0	0	0	0	7.0	0	0	0	0	0
		15	16												
		0	7.8												
IC401	KA22233	5.2V	10	5.0	3.5	4.0	3.5	4.0	3.5	4.0	8.4	5.2	5.2	4.0	4.0
		15	16	17	18	19	20	21	22						
		3.5	4.0	3.5	4.0	3.5	5.0	0.015	5.2						
Q601	LC7461M-8100	0V	0	0	0	3.0	0	0	3.0	3.0	2.4	3.0	0	3.0	3.0
		15	16	17	18	19	20	21	22	23	24				
		3.0	3.0	3.0	3.0	3.0	3.0	0	0	3.0	0				
Q611	LM6416F-A	4.4V	4.4	4.4	4.4	0.5	1.2	4.5	3.2	0.008	0.008	0.008	0	0	0
		15	16	17	18	19	20	21	22	23	24	25	26	27	28
		5.0	5.0	0.02	15	3.0	4.8	4.5	4.5	4.5	4.5	4.5	1.0	4.5	0
Q620	BU4028B	0V	0	5.6	0	0	0	0	0	0	0.008	0.004	0.006	0.004	0
		15	16												
		0	5.7												
Q701	TA8189N	0V	0	1.0	1.0	1.0	1.0	0	0	1.3	1.0	0	0	0.5	0
		15	16	17	18	19	20	21	22	23	24				
		1.0	1.3	1.1	6.0	0	1.0	1.0	1.0	0	0				
Q703	BA3126N	0.015	0.012	0.015	0.015	0.01	9.6	5.2	0.01	0.01					
Q761	SDC-01	0.2V	5.6	5.6	5.6	0	5.6	0	0	0.6	5.6	5.6	5.6	0.8	0.8
		15	16	17	18	19	20	21	22	23	24	25	26	27	28
		0	0	0	0	0	0.6	0	1.0	9.4	0.5	9.7	5.5	5.5	5.5
		29	30	31	32	33	34	35	36	37	38	39	40	41	42
		5.5	0	2.5	2.5	4.9	5.6	5.2	5.5	5.5	5.5	10.8	10.8	10.8	5.0
Q901	LA4282	1.2V	0.7	13.4	0	0.7	1.2	13.3	24	0	0	13.3	0		

IC/Transistor Spannungstabelle

IC and transistor voltage table

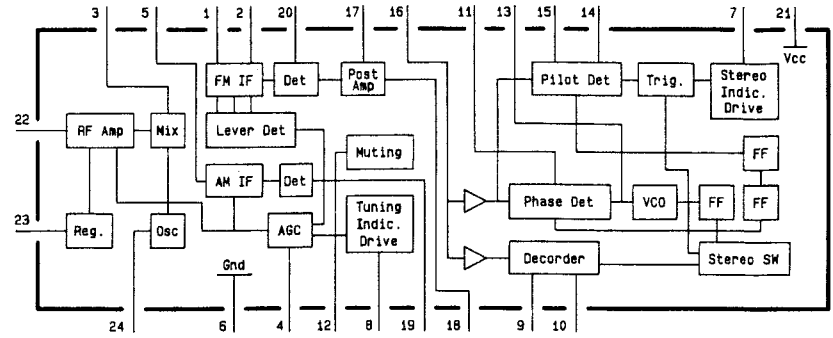
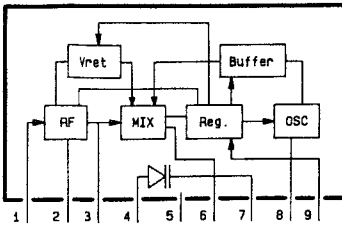
REF. NO.	DESCRIPTION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
IC506	BA6296FP	3.4V	3.4	2.2	2.2	7.0	4.8	4.8	0	2.2	2.2	3.4	3.4	0	1.2	2.8
		16	17	18	19	20	21	22	23	24	25	26	27	28		
		2.2	3.4	3.4	2.2	2.2	7.6	7.6	2.2	2.2	2.2	3.4	3.4	0		
IC501	A1081Q	2.2V	0.06	0	1.0	0.16	0	0.45	1.2	0	4.8	4.8	0	2.0	2.0	2.0
		16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
		2.5	4.1	0	2.2	2.2	2.2	1.3	1.3	2.2	2.2	2.2	2.2	0.9	3.4	0
		31	32													
		2.0	2.2													
IC300	CXD1161	2.2V	3.2	4.7	4.7	0	2.2	2.2	0	2.2	4.7	0	0	0	4.7	0
		16	17	18	19	20										
		1.2	0	0	0	2.2										
IC502	CXA1182Q-Z	2.2V	1.5	0.06	0.6	2.2	2.2	2.0	1.6	0.5	4.8	2.2	2.2	2.0	2.2	2.2
		16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
		0	0.5	0	0	0	4.6	0	0	0	4.7	0	4.0	4.0	1.4	2.0
		31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
		3.2	2.0	0	0	0	0	4.7	2.2	2.2	0	0	0	0	0	2.2
		46	47	48												
		1.4	1.0	2.2												
IC504	LH5116NA-10	2.2V	2.2	2.2	2.2	2.2	2.2	2.2	2.2	4.6	4.2	4.2	0	4.0	4.0	4.0
		16	17	18	19	20	21	22	23	24						
		4.0	4.0	2.5	2.2	2.5	4.5	4.0	4.0	4.0						
IC503	CXD1130Q	0V	0	0	0	2.0	2.2	0	2.1	1.9	0	4.6	0	4.6	0	0
		16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
		0	0	0	4.2	0	0	4.6	0	0	4.6	4.7	0	0	4.1	4.1
		31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
		4.1	4.1	4.7	4.1	4.1	4.7	4.7	2.2	2.2	1.2	2.2	2.2	2.2	2.2	2.2
		46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
		2.2	2.2	2.2	4.5	2.5	2.0	0	2.0	2.0	0	4.8	0	0	0	1.0
		61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
		1.0	3.6	3.4	2.0	2.0	2.0	4.7	2.2	4.7	2	4.7	0	4.7	4.7	2.2
		76	77	78	79	80										
		2.1	2.1	0	2.2	2.2										
IC505	CXP-5084	4.3V	4.6	0	0	4.7	0	0	0	4.7	0	4.7	0	0	0	3.6
		16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
		0	4.7	4.7	0.35	4.7	4.7	4.7	4.7	4.7	0	4.7	0	0	0	0
		31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
		0	4.7	4.7	4.7	2.0	2.0	2.0	2	2.0	2.0	2.0	2.0	2.0	2.0	2.0
		46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.9	1.3	0	4.7	0	2.2
		61	62	63	64											
		2.2	5.0	0	4.8											

IC Blockdiagramme

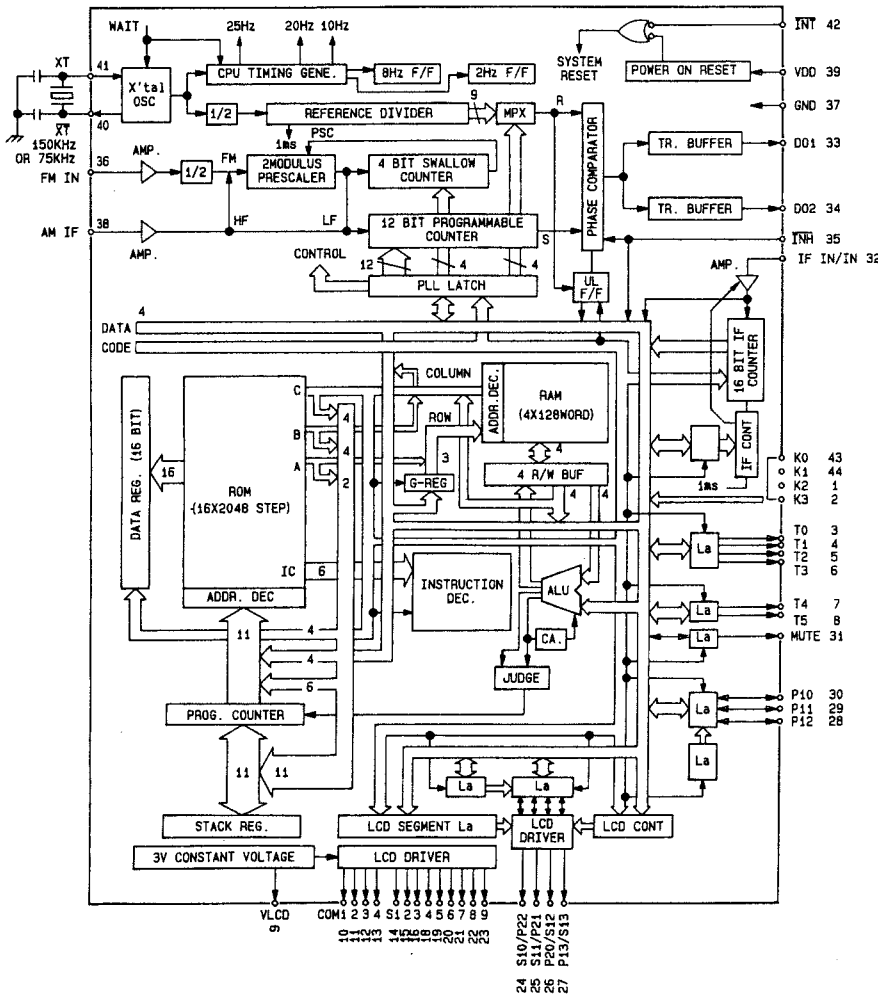
IC block diagrams

Q111 LA1805

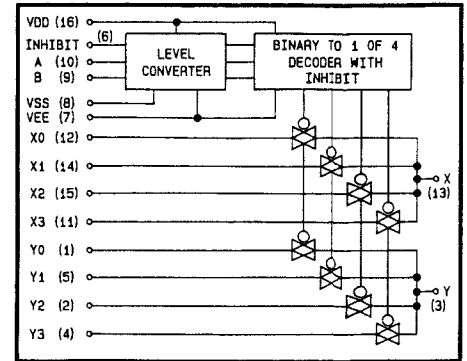
Q11 LA1186N



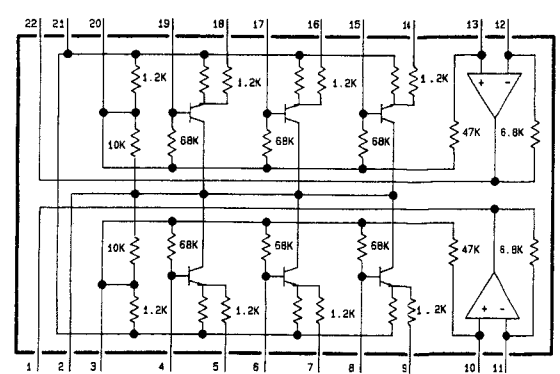
Q211 TC9307AF



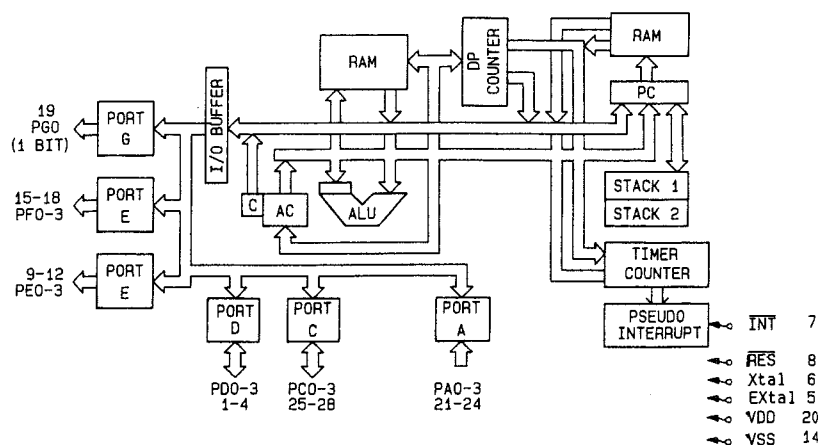
Q301 BU4052B



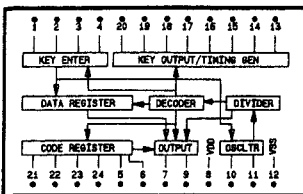
IC401 KA22233



Q611 LM6416

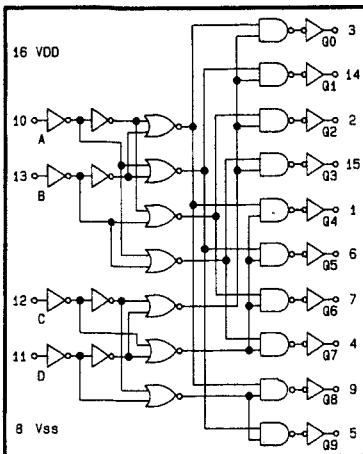


Q601 LC7461

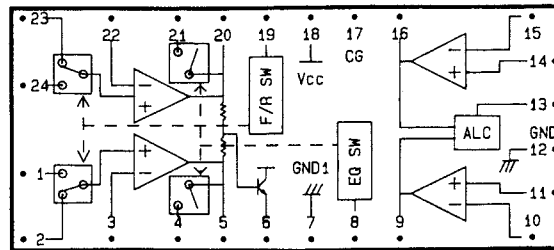


IC Blockdiagramme IC block diagrams

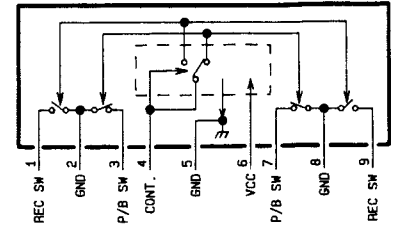
Q620 BU4028B



Q701 TA8189N

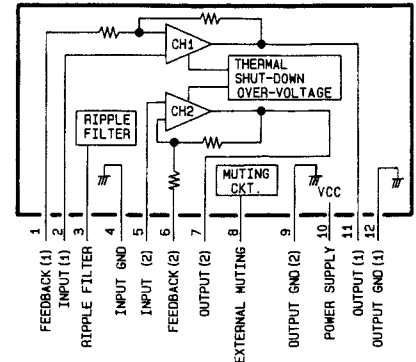


1	METAL SW	VDD	42
2	REC B SW	MOTOR CONTROL	41
3	REC A SW	SOL_P1	40
4	CR02 SW	SOL_P2	39
5	PACK SW	REVSEL2	38
6	FF/RF SW	PNR SENSE	37
7	PLAY SW	REVSEL1	36
8	HALL PLUSE	REMOTE IN	35
9	R/P CONTROL	NC	34
10	STOP KEY	RESET	33
11	MODE KEY	XOUT	32
12	REC KEY	XIN	31
13	PB MUTE CONTROL	NC	30
14	MATEL CONTROL	FF KEY	29
15	CR02 CONTROL	FR KEY	28
16	OSC CONTROL	F_PLAY KEY	27
17	CONTINUOUS LED	R_PLAY KEY	26
18	ONE CYCLE LED	R_PLAY LED	25
19	SINGLE LED	F_PLAY LED	24
20	REC MUTE CONTROL	REC LED	23
21	GND	NC	22



Q703 BA3126N

Q901 LA4282



Ersatzteilliste elektrisch Spare parts list electrical

Q761 SDC-01

Best.-Nr. Part No.	Bezeichnung	Description	Pos.	Preisgruppe Price-key
57 570 00	Tunerplatine	Tuner P. C. B. assembly	25 + 36 + 38	E 4
57 571 00	Endstufenplatine	Ampl EQ P. C. B. assembly	27 + 28 + 39	E 9
57 572 00	Recorderplatten	Tape Preamp P. C. B. assembly	29 + 37	D 8
57 574 00	Funktionsplattenen CD	CD fun P. C. B. assembly	30 - 35	D 4
40 246 00	IC LA 1186 N	IC LA 1186 N	Q 11	B 0
60 273 00	IC LA 1805	IC LA 1805	Q 111	B 5
65 232 00	IC TC 9307 AF-014	IC TC 9307 AF-014	Q 211	C 8
57 575 00	IC BU 4052 B	IC BU 4052 B	Q 301	A 7
65 236 00	IC KA 22233	IC KA 22233	IC 401	A 9
57 078 00	IC HC 377 M IR-Empfänger	IC HC 377 M IR-Empfänger	Q 603	B 6
57 576 00	IC LM 6416 F	IC LM 6416 F	Q 611	B 5
57 577 00	IC BU 4028 B	IC BU 4028 B	Q 620	A 7
66 664 00	IC TA 8189 N	IC TA 8189 N	Q 701	B 4
57 578 00	IC BA 3126 N	IC BA 3126 N	Q 703	A 7
57 579 00	IC SDC-01	IC SDC-01	Q 761	C 3
48 365 00	IC LA 4282	IC LA 4282	Q 901	C 1
08 070 00	Transistor 2 SC 1674	Transistor 2 SC 1674	Q 1	A 5
21 736 00	Transistor 2 SC 1815 GR	Transistor 2 SC 1815 GR	Q 2	A 6
13 763 00	Transistor 2 SC 945 P	Transistor 2 SC 945 P	Q 3-6	A 6
26 219 00	Transistor 2 SA 733 P	Transistor 2 SA 733 P	Q 7, 8	A 6
21 736 00	Transistor 2 SC 1815 GR	Transistor 2 SC 1815 GR	Q 9	A 4
13 757 00	Transistor 2 SC 1675 L	Transistor 2 SC 1675 L	Q 10	A 7
13 763 00	Transistor 2 SC 945 P	Transistor 2 SC 945 P	Q 101, 102	A 6
13 757 00	Transistor 2 SC 1675 L	Transistor 2 SC 1675 L	Q 103	A 7
26 219 00	Transistor 2 SA 733 P	Transistor 2 SA 733 P	Q 104	A 6
13 763 00	Transistor 2 SC 945 P	Transistor 2 SC 945 P	Q 105, 402	A 6
26 219 00	Transistor 2 SA 733 P	Transistor 2 SA 733 P	Q 403, 404	A 6
12 948 00	Transistor 2 SD 882	Transistor 2 SD 882	Q 501	A 6
21 736 00	Transistor 2 SC 1815 GR	Transistor 2 SC 1815 GR	Q 502	A 4
12 948 00	Transistor 2 SD 882	Transistor 2 SD 882	Q 503	A 6

Ersatzteilliste elektrisch
Spare parts list electrical

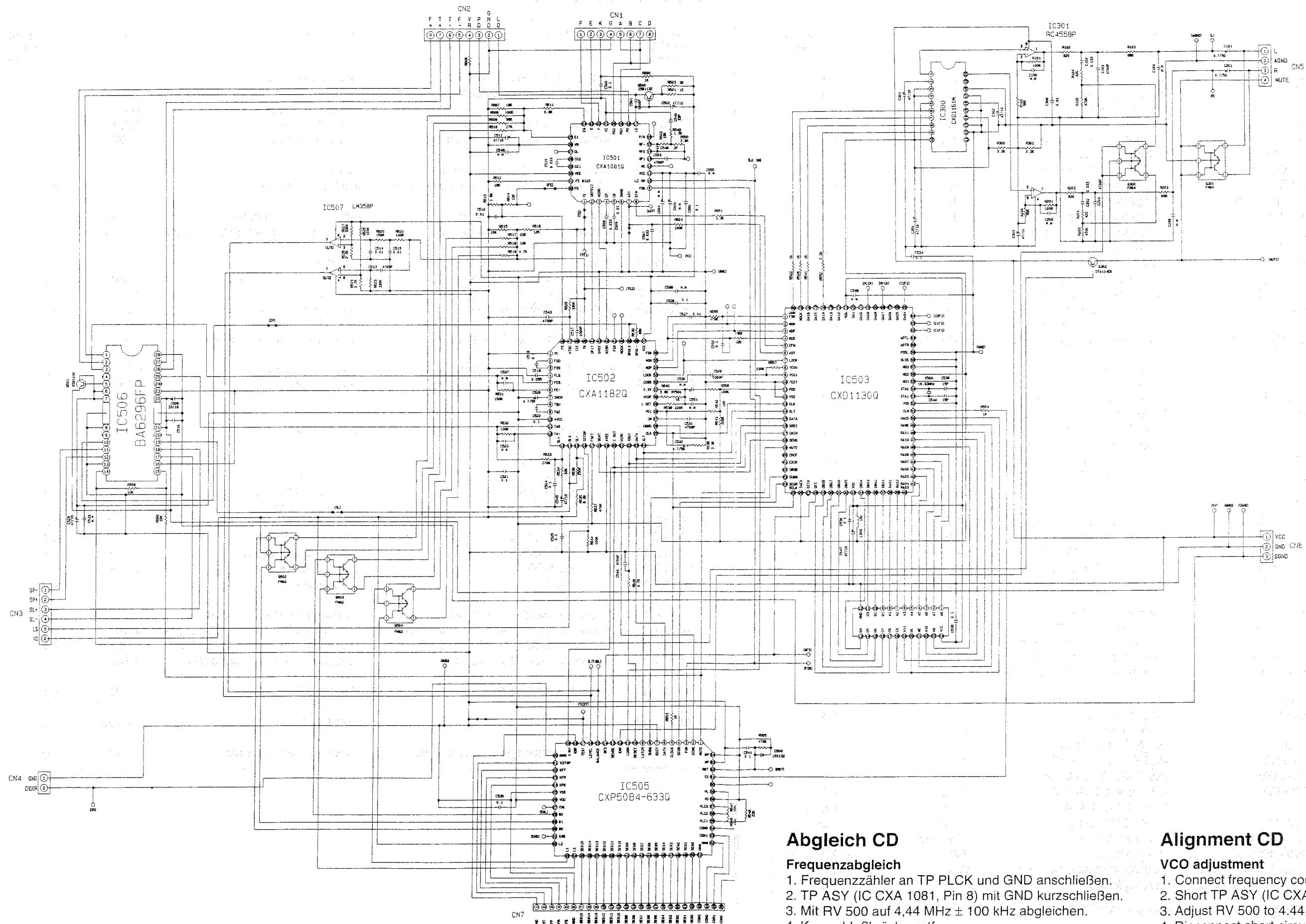
Best.-Nr. Part No.	Bezeichnung	Description	Pos.	Preisgruppe Price-key
21 736 00	Transistor 2 SC 1815 GR	Transistor 2 SC 1815 GR	Q 504	A 4
13 763 00	Transistor 2 SC 945 P	Transistor 2 SC 945 P	Q 612	A 6
60 432 00	Transistor 8050 D	Transistor 8050 D	Q 613-616	A 2
13 763 00	Transistor 2 SC 945 P	Transistor 2 SC 945 P	Q 617-621	A 6
21 736 00	Transistor 2 SC 1815 GR	Transistor 2 SC 1815 GR	Q 661, 662	A 4
32 490 00	Transistor 2 SC 2120	Transistor 2 SC 2120	Q 702	A 3
13 763 00	Transistor 2 SC 945 P	Transistor 2 SC 945 P	Q 704-906	A 6
46 371 00	Transistor 8550 D	Transistor 8550 D	Q 707	A 2
21 736 00	Transistor 2 SC 1815 GR	Transistor 2 SC 1815 GR	Q 708	A 4
13 763 00	Transistor 2 SC 945 P	Transistor 2 SC 945 P	Q 709, 710	A 6
57 580 00	Transistor 2 SD 1809	Transistor 2 SD 1809	Q 711	A 1
46 371 00	Transistor 8550 D	Transistor 8550 D	Q 762, 763	A 2
21 736 00	Transistor 2 SC 1815 GR	Transistor 2 SC 1815 GR	Q 891	A 4
12 948 00	Transistor 2 SD 882	Transistor 2 SD 882	Q 892	A 6
13 763 00	Transistor 2 SC 945 P	Transistor 2 SC 945 P	Q 893	A 6
26 219 00	Transistor 2 SA 733 P	Transistor 2 SA 733 P	Q 894	A 6
13 763 00	Transistor 2 SC 945 P	Transistor 2 SC 945 P	Q 921, 922	A 6
26 795 00	Transistor 2 SC 536 F-SPA	Transistor 2 SC 536 F-SPA	Q 1101, 1102	A 6
66 598 00	Diode 1 SS 176-T	Diode 1 SS 176-T	D 1-227	A 1
57 581 00	Diode 2 A 02	Diode 2 A 02	D 501-504	A 1
34 942 00	Zenerdiode UZ 5,6 BM-T	Zenerdiode UZ 5.6 BM-T	D 505	A 3
11 239 00	Diode 1 N 4002	Diode 1 N 4002	D 506-507	A 3
40 680 00	Zenerdiode UZ 12 BM-T	Zenerdiode UZ 12 BM-T	D 512	A 1
40 679 00	Zenerdiode UZ 8,2 BM-T	Zenerdiode UZ 8.2 BM-T	D 513	A 1
66 598 00	Diode 1 SS 176-T	Diode 1 SS 176-T	D 514, 611-617	A 1
11 239 00	Diode 1 N 4002	Diode 1 N 4002	D 764-892	A 3
11 241 00	Diode 1 N 4148	Diode 1 N 4148	D 893-894	A 3
37 759 00	Zenerdiode UZ 9,1 BM-T	Zenerdiode UZ 9.1 BM-T	D 895	A 2
34 942 00	Zenerdiode UZ 5,6 BM-T	Zenerdiode UZ 5.6 BM-T	D 921	A 3
29 597 00	LED rot EL-204 HD	LED red EL-204 HD	D 106, 376, 619, 711	A 5
57 582 00	LED gelb EL-204 YD	LED yellow EL-204 YD	D 397	A 5
11 244 00	LED grün EL-204 GD	LED green EL-204 GD	D 398	A 3
57 583 00	LED grün EL-852 GD	LED green EL-852 GD	D 712, 713	A 5
10 180 00	Sicherungs-Wi 2,2 Ohm/1/2 W	Resistor 2.2 Ohm/1/2 W	R 501	A 1
60 401 00	Sicherungs-Wi 33 Ohm/1/2 W	Fuse resistor 33 Ohm/1/2 W	R 502	A 1
31 408 00	Metox 1 Ohm/1/2 W	Fuse resistor 1 Ohm/1/2 W	R 507	A 1
10 180 00	Sicherungs-Wi 2,2 Ohm/1/2 W	Resistor 2.2 Ohm/1/2 W	R 891	A 1
57 584 00	Metox 120 Ohm/1/2 W	Fuse resistor 120 Ohm/1/2 W	R 921	A 1
57 585 00	Ferritantenne kpl.	Bar ant. (TYA-0031A)	T 4	A 6
57 586 00	FM Antennenspule	FM ant. coil, B. P. F.	L 1	A 3
57 587 00	FM IFT Spule	FM IFT coil	T 1	A 3
57 588 00	FM DET (104-034)	FM DET (104-034)	T 2	A 3
57 594 00	AM IFT (4010-1240)	AM IFT (4010-1240)	T 3	A 3
57 589 00	MW OSC (TFO-0272)	MW OSC (TFO-0272)	T 5	A 3
57 590 00	MPX Filter 5303-007	MPX filter 5303-007	F 9, 10	A 7
60 941 00	SFE 10,7 MHz	SFE 10.7 MS 3-A	CF 101	A 4
65 243 00	AM ZF, SFU 450 B	AM IF SFU 450 B 9	CF 102	A 3
57 591 00	Fangspule Bias, 39 mH	Bias trap 39 mH	L 701, 702	A 3
57 592 00	Spule Löschoszillator	Tape osc coil	T 701	A 3
60 979 00	Keramikschwingkreis 4 MHz	Ceramic resonator 4 MHz	Z 611	A 4
57 593 00	Keramikschwingkreis 3,58 MHz	CSA 3.58 MHz	Z 761	A 5
57 595 00	Batterie 3,6 V Puffer	Battery 3 V 6 CP1	B 301	B 5
66 314 00	Trimpoti 10 kOhm	S. F. R. 10 kOhm	R 123	A 0
57 596 00	Drehwiderstand Volume mit Motor	VR 100 KB x 2, with motor	R 456	C 8
57 597 00	Drehwiderstand Balance	VR 50 kW	R 321	A 5
57 598 00	Schiebewiderstand EQ	VR 100 KB x 2	R 451, 453, 455	A 5

Ersatzteilliste elektrisch
Spare parts list electrical

Best.-Nr. Part No.	Bezeichnung	Description	Pos.	Preisgruppe Price-key
57 599 00	Taster Bedienung Tuner, CD	Tact switch EVQ	rot	A 1
57 600 00	Taster Bedienung Cassette, Betriebsart	Tact switch	weiß	A 1
57 601 00	Schalter Bass Boost	Switch bass boost	SW 1	A 3
57 602 00	Schiebeschalter Tape Sel 3fach	Switch tape sel	S 707	A 3
57 603 00	Schiebeschalter Direction 2fach	Switch direction	S 708	A 3
57 608 00	Mikroschalter CD-Fach »offen«	Close limit sw	1 x	A 2
57 609 00	Mikroschalter CD-Fach »geschlossen«	Micro sw MSS-30	2 x	A 2
48 872 00	Klemmanschluß LS 4-fach	Spk jack CJ-9007-040	JK 902	A 9
57 604 00	Klinkenbuchse Headphone 3,5	Head phone jack JY-3521-01-090	JK 901	A 7
57 605 00	Display Tuner PD-176P-A1	LCD PD-176P-A1	105	C 0
66 887 00	Lampe 12 V/60 mA axial	Fuse lamp 12 V/60 mA	PL 201	A 3
57 606 00	Display CD	LCD DT-295 P	104	C 1
66 887 00	Lampe 12 V/60 mA axial	Fuse lamp 12 V/60 mA	CD	A 3
57 607 00	Netztrafo ML 30 93TS-023 A	Power transformer 93TS-023 A	103	D 6
06 064 00	IEC-Sicherung 3,15 A/250 V	Fuse 3.15 A/250 V	F 501	A 2
01 643 00	IEC-Sicherung 1 A/250 V	Fuse 1 A/250 V	F 801, 802	A 2
57 573 00	Grundplatine CD	Mounted board CD	26	F 9
57 616 00	IC CXD 1161 M 3	IC CXD 1161 M 3	IC 300	C 0
45 040 00	IC RC 4558 P	IC RC 4558 P	IC 301	A 4
57 610 00	IC CXA 1081 Q-T3	IC CXA 1081 Q-T3	IC 501	B 0
57 611 00	IC CXA 1182 Q	IC CXA 1182 Q	IC 502	C 5
45 313 00	IC CXD 1130 Q	IC CXD 1130 Q	IC 503	D 8
57 612 00	IC LH 5116 NA-10	IC LH 5116 NA-10	IC 504	B 7
57 613 00	IC CXP 50 84-633 Q	IC CXP 50 84-633 Q	IC 505	D 7
57 614 00	IC BA 6296 FP-T1	IC BA 6296 FP-T1	IC 506	C 1
57 615 00	IC LM 358 P	IC LM 358 P	IC 507	A 4
57 617 00	Transistor FMG 4-T-148 SMD	Transistor FMG 4-T-148 SMD	Q 300, 1	A 1
57 618 00	Transistor DTA 114 EK-T 146 SMD	Transistor DTA 114 EK-T 146 SMD	Q 302	A 1
57 619 00	Transistor 2 SB 1132-T100 SMD	Transistor 2 SB 1132-T100 SMD	Q 500, 1	A 1
57 620 00	Transistor FMG 2-T-148 SMD	Transistor FMG 2-T-148 SMD	Q 502, 3	A 1
40 381 00	Diode 1 SS 132-T 91	Diode 1 SS 132-T 91	D 500	A 1
29 623 00	Trimpoti 1 kOhm	SVR 1 kOhm	RV 500	A 3
34 704 00	Keramik-Schwingkreis 16,93 MHz	Ceramic CSA 16.93 MX	X 100	B 0

Schaltbild CD Grundplatine

Schematic diagram CD main P. C. B.



Abgleich CD

Frequenzabgleich

1. Frequenzzähler an TP PLCK und GND anschließen.
2. TP ASY (IC CXA 1081, Pin 8) mit GND kurzschließen.
3. Mit RV 500 auf 4,44 MHz $\pm$ 100 kHz abgleichen.
4. Kurzschlußbrücke entfernen.

Prüfen EF-Balance

Die Höhe des HF-Signals sollte ca. 1,2 Vss mit der Test-CD Phillips 5 A und 1,1 mit der Sony YEDS 18 betragen.

Alignment CD

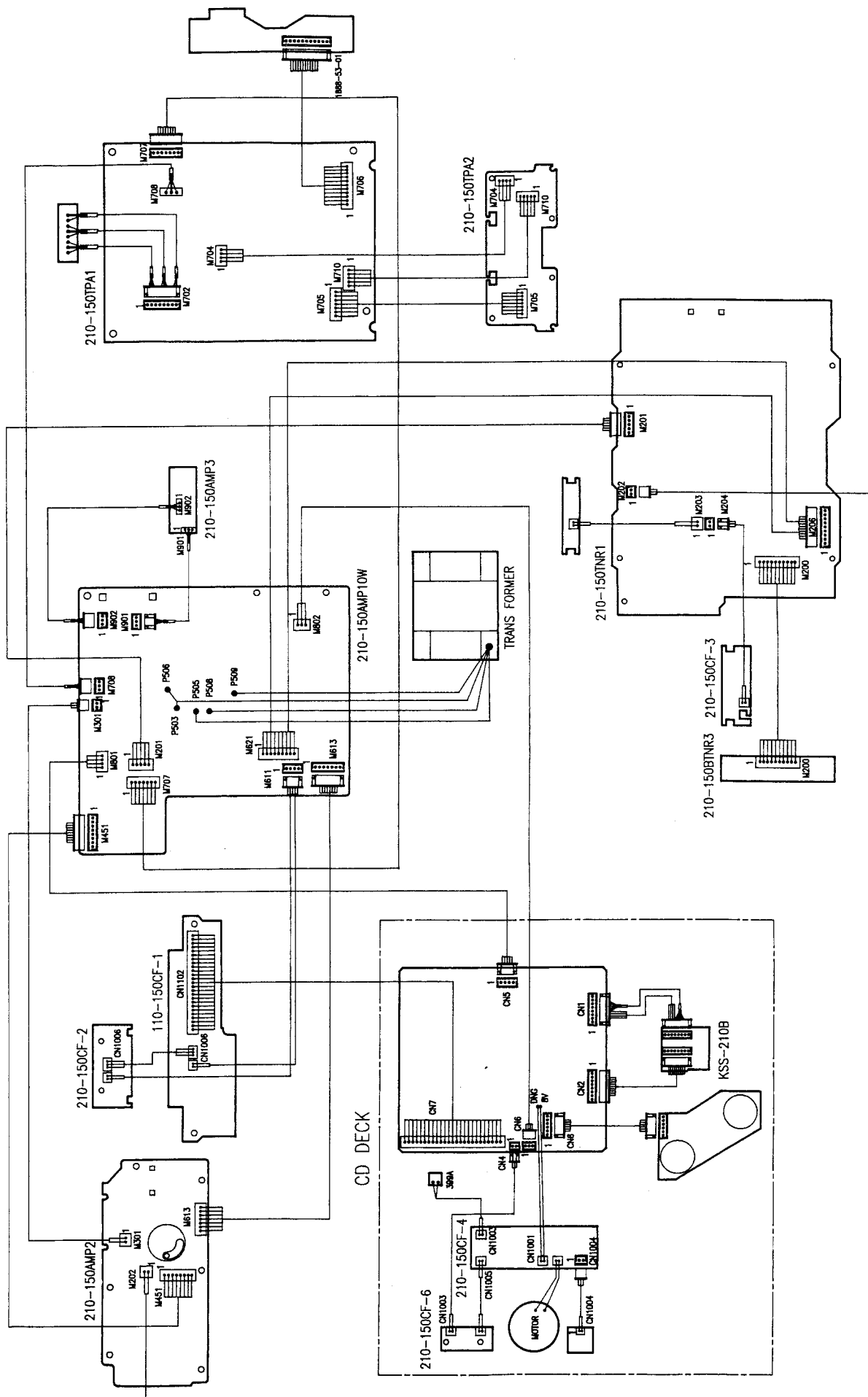
VCO adjustment

1. Connect frequency counter to TP PLCK and GND.
2. Short TP ASY (IC CXA 1081, Pin 8) to GND.
3. Adjust RV 500 to 4.44 MHz $\pm$ 100 kHz.
4. Disconnect short circuit.

Checking the EF-Balance

The RF-signal should be about 1.2 Vpp with test-CD Phillips 5 A and 1.1 with Sony YEDS 18.

Wiring diagram



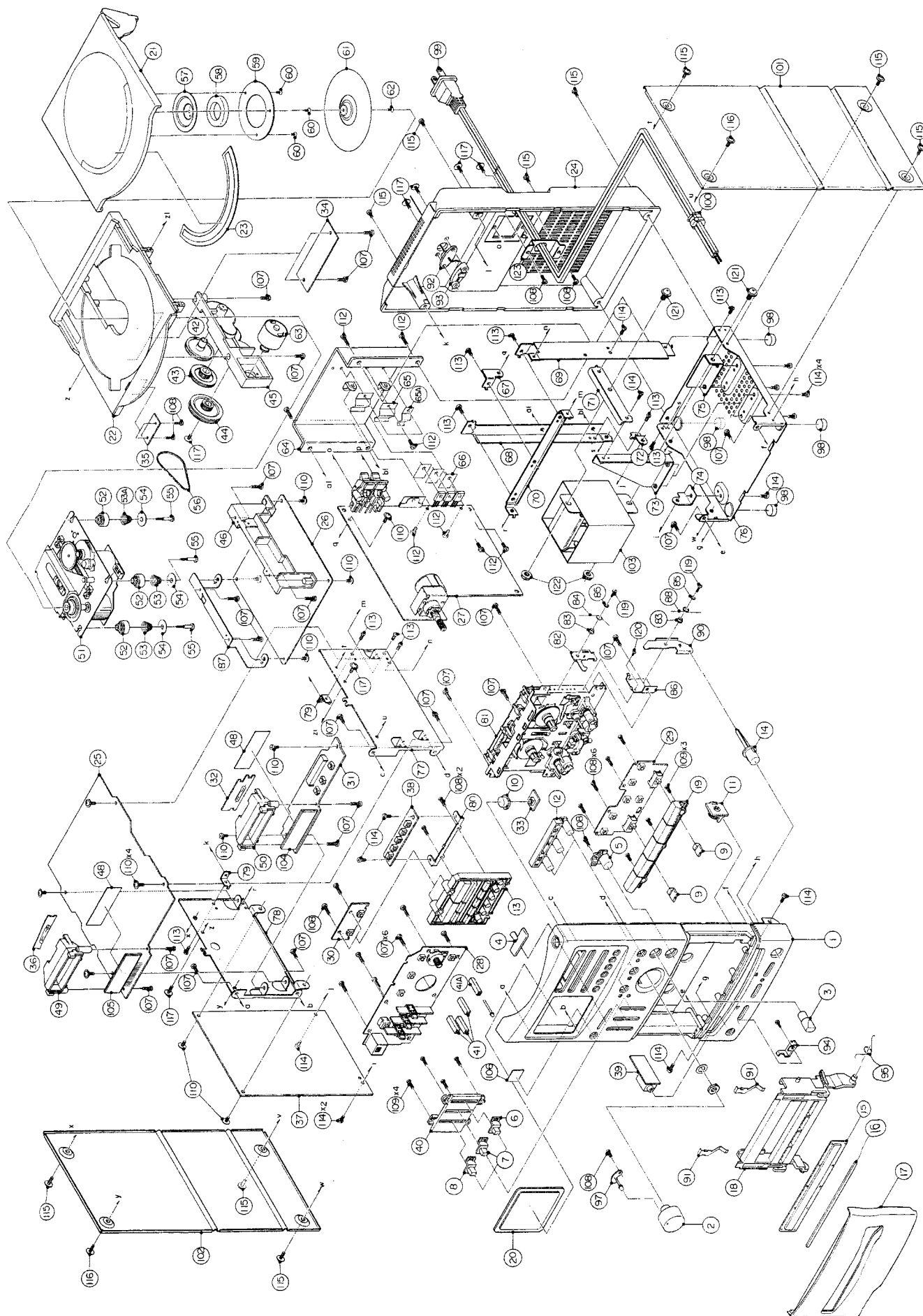
Ersatzteilliste Gehäuse

Spare parts list housing

Best.-Nr. Part No.	Bezeichnung	Description	Pos.	Preisgruppe Price-key
57 531 00	Frontblende ML 30	Front panel	1	C 1
57 532 00	Seitenteil rechts	Side panel right	101	A 9
57 533 00	Seitenteil links	Side panel left	102	A 9
57 534 00	Rückwand	Back board	24	A 8
57 535 00	Fuss Gummi	Foot	98	A 1
57 536 00	Anzeigefenster LCD Display	LCD display window	20	A 6
57 537 00	Abdeckung IR-Sensor	Sensor window	106	A 0
57 538 00	Drehknopf Volume	Volume knob	2	A 3
57 539 00	Drehknopf Balance	Balance knob	3	A 2
57 540 00	Knopf Dynamic Bass Boost	DBBS knob	4	A 2
57 541 00	Knopf Function (Power)	Power knob	5	A 2
57 542 00	Knopf Schieberegler EQ 10 kHz	EQ knob	6	A 2
57 543 00	Knopf Schieberegler EQ 1 kHz	EQ knob	7	A 2
57 544 00	Knopf Schieberegler EQ 100 Hz	EQ knob	8	A 2
57 545 00	Knopf Schiebeschalter Tape Sel + Direction	Knob of tape sel. + direction	9	A 2
57 546 00	Knopf Pause/Record	Record knob		A 2
57 547 00	Knopf CD Open/Close	CD eject knob	10	A 3
57 548 00	Tastenblock Betriebsart (3)	Knob of tun, CD + tape	12	A 3
57 549 00	Tastenblock Tuner/CD (16)	Function knob	13	A 5
57 550 00	Knopf Cassette Eject	Cass door eject knob	14	A 2
57 551 00	Tastenblock Cassette (5)	Cass key	19	A 5
57 552 00	Fenster Cassettenfach	Cass door window	15	A 6
57 553 00	Zierleiste Cassettenfach	Ornament bar	16	A 5
57 554 00	Abdeckung Cassettenfach	Cass door cover	17	A 8
57 555 00	Cassettenfach	Cartridge guide	18	A 6
57 556 00	Dämpfung Cassettenfach	Gear damper	11	A 5
57 557 00	Feder Cassettenfach öffnen	Cass door spring	95	A 1
57 558 00	Andruckfeder Cassette	Cartridge guide spring	91	A 1
57 559 00	Feder Gleithebel Eject	Eject spring A (cassette)	84	A 1
57 560 00	CD-Fach-Deckel	CD top cover	21	B 0
57 561 00	Abdeckung CD-Fach	CD cover window F	23	A 4
57 562 00	Basis CD-Spieler (Gehäuseoberteil)	CD base	22	A 9
57 563 00	CD-Mechanik kpl.	CD player assembly KSK-1110 A	51	F 9
57 564 00	Zahnrad CD-Fach	Gear B	42	A 3
57 565 00	Vermittlungszahnrad CD-Fach	Gear A	43	A 3
57 566 00	Antriebsrad für Riemen	Belt pulley	44	A 4
57 567 00	Motor MDH 2 B 60 CD-Fach	Motor MDH 2 B 60	63	B 7
57 568 00	Antriebsriemen	Motor belt	56	A 5
57 622 00	Cassettenmechanik kpl.	TID TN 1800 Z-124	81	E 7
57 569 00	Fernbedienungsgeber RC 110 ML 30	Remote controll assembly ML 30	Beipack	C 8
31 529 00	Batterie 1,5 V Mignon AA	Battery "AA" 1 V 5	(2)	A 1

Explosionsdarstellung Gehäuse

Exploded view housing



WICHTIGER HINWEIS/IMPORTANT NOTE

Der integrierte CD-Spieler arbeitet mit unsichtbarem Laserlicht.

Nicht in den Strahl blicken und sich nicht dem Strahl aussetzen!

Vorsicht, Laserstrahlung im Inneren des Gerätes!

Zur Vermeidung von Strahlungsschäden darf das Gehäuse nur von qualifiziertem Fachpersonal geöffnet werden.

Informationsetikett auf der Geräterückseite (siehe Bild).

The integrated CD-Player works with invisible laser-light.

Do not look into this beam and don't abandon yourself to radiation.

Attention, laser-radiation also inside of the unit!

To avoid damages of radiation unit should be opened only by qualified service personnel.

Information label on the rear of unit (see picture).

VAROITUS!

Suojakotelo ei saa avata. Laite sisältää laserdiodin, josta lähtee näkymättömiä silmille vaarallista lasersäteilyä.

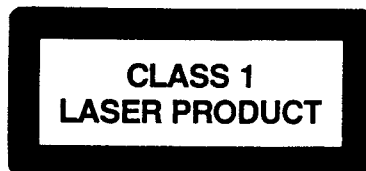
VARO!

Avattaessa ja suojauslaitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.



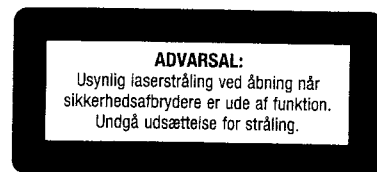
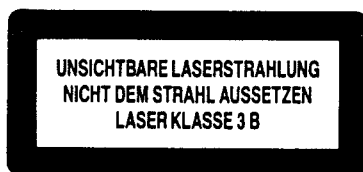
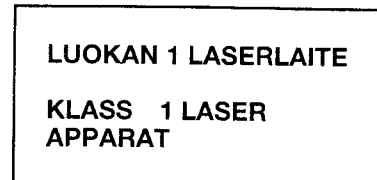
Laser $\lambda = 780 \text{ nm}$
 $P_{\text{max}} = 0,5 \text{ mW}$

Warnetikett in dem Plattenfach (siehe Bild).



Laser $\lambda = 780 \text{ nm}$
 $P_{\text{max}} = 0,5 \text{ mW}$

Warning label in record-drawer (see picture).



Austrittsöffnung für Laserstrahlung
Discharge orifice for Laser radiation

Hinweis für Original-Etikett:

Schrift und Umrandung schwarz, Untergrund gelb.

Indication for original label:

Letters and surrounding black, background yellow.

Bitte bei Ersatzteilbestellung die genaue Bezeichnung und **Ident-Nr. (siehe Typenschild)** des Gerätes sowie Bestell-Nummer und Positions-Nummer des Ersatzteils angeben.

For ordering of spare parts please state exact description and **ident.-no. of unit (see silver rating label on the backside of unit)** as well as part no. and position no. of required spare parts.

Benutzen Sie:



*317298 #

oder

Telefax: 08245/51326

Der Umwelt zuliebe!



Diese Serviceanweisung wurde auf chlorfrei gebleichtem Papier gedruckt.

Technische Änderungen vorbehalten.
Technical modifications reserved.

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